

## **REMARKS**

Applicant respectfully requests reconsideration of the instant application in view of the preceding amendments and/or the following remarks. No claim amendments have been made and Applicant submits that no new matter has been added by way of this Response. Claims 1-15 and 21-26 are currently pending.

### **Specification**

The Examiner has objected to an alleged informality in the specification. Specifically, the Examiner has suggested that the specification be updated at [0008] to reflect the maturation of application number 10/243,489 into patent number 7,359,966. Applicant has amended [0008] of the specification to indicate the new status of the patent. Accordingly, Applicant submits that the Examiner's objection to the specification has been overcome.

### **Rejections under 35 U.S.C. § 103**

Claims 1-15 and 21-26 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Vaidya (US Patent No. 6,279,113; hereinafter, "Vaidya") in view of Borer (US Patent No. 6,057,892; hereinafter, "Borer"). Applicant respectfully traverses the Examiner's rejections and submits that a prima facie case of obviousness has not been established and that the pending claims are patentably distinct from the cited references, taken alone or in combination, for at least the following reasons.

MPEP § 706.02(j) prescribes that a rejection under 35 U.S.C. § 103 should set forth:

- (i) the relevant teachings of the prior art relied upon,
- (ii) the differences in the claim over the applied references,
- (iii) the proposed modification of the applied references to arrive at the claimed subject matter, and

- (iv) an explanation as to why the claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made.

Applicant submits that the rejections in the pending Office Action do not establish each of these requirements.

Applicant submits that, by over-generalizing cited references, the rejections in the July 16, 2008 Office Action do not establish at least either of the first two elements of a *prima facie* case of obviousness. Independent claim 1 recites, *inter alia*,

1. A method of reducing spread of data on a network, comprising:

...  
for each pair of sending node and receiving node, marking transmissions of data packets for said pair as marked transmissions when said spectral analysis indicates peak frequencies associated with said marked transmissions are different from peak frequencies associated with others of said transmissions for said pair over a window of a predetermined number of said time periods;

...  
interrupting traffic of said future data packets based on said estimating.

By way of example only, Applicant submits that none of the cited references, taken alone or in combination, discuss or render obvious at least these elements of independent claim 1. For example, the pending rejection has cited to col. 7, lines 12-24; col. 8, lines 1-15 and 40-56; col. 9, lines 3-20; and col. 11, lines 16-32 of Vaidya as allegedly discussing the claim element "for each pair of sending node and receiving node, marking transmissions of data packets for said pair as marked transmissions when said spectral analysis indicates peak frequencies associated with said marked transmissions are different from peak frequencies associated with others of said transmissions for said pair over a window of a predetermined number of said time periods," recited in independent claim 1 (July 16, 2008 Office Action, p. 3, ¶ 1). Applicant respectfully traverses this argument and submits that the pending rejection has overgeneralized the reference and that neither the cited portions of Vaidya, nor indeed the rest of the reference, discuss or render obvious at least this claim element. Instead, Vaidya

discusses "[a] signature based dynamic network intrusion detection system (IDS) includ[ing] attach signature profiles which are descriptive of characteristics of known network security violations." (Vaidya, abstract). Vaidya's system includes "monitoring network data" and extracting information from data packets, such as "MAC header information, IP header information, transport header information, and application information." (Vaidya, col. 7, lines 12-24). The extracted data is compared with attack signature profiles in order to detect intruding data packets. Vaidya does not, however, discuss or render obvious, " peak frequencies associated with said marked transmissions are different from peak frequencies associated with others of said transmissions," as recited in independent claim 1. In fact, Vaidya never even mentions "frequencies" at all, particularly not with reference to data packets.

In another example, the pending rejection has cited col. 10, lines 3-16 and col. 12, lines 11-42 of Vaidya as allegedly discussing the claim element, "interrupting traffic of said future data packets based on said estimating," as recited in independent claim 1 (July 16, 2008 Office Action, p. 3, ¶ 4). Applicant respectfully traverses this argument and submits that the pending rejection has overgeneralized the reference and that neither the cited portions of Vaidya, nor indeed the rest of the reference, discuss or render obvious at least this claim element. Vaidya simply does not discuss "interrupting traffic of said future data packets," as recited in the claim. For example, the cited portions of Vaidya describe detection of time/counter-based sequential attacks by monitoring events associated with an application session, comparing events to evaluated expressions associated with a timer/counter-based sequential attack profile, and entering timestamps in a state cache until a threshold number of timestamps have been added to register an intrusion detection. This is not interruption but detection, and at no time does Vaidya's intrusion detection system ever discuss or render obvious, "interrupting traffic of said future data packets," as recited in independent claim 1.

The MPEP prescribes that, "when evaluating the scope of a claim, *every limitation in the claim must be considered*," [§ 2106 II(C), emphasis added] and, "*All words in a claim must be considered in judging the patentability of that claim against the prior art*." [§ 2143.03, emphasis added]. Applicant submits that, by overgeneralizing references, the pending rejection fails to consider "all words in [the] claim," as required, for example, by MPEP § 2143.03. Applicant further submits that Vaidya does not discuss or render obvious at least the claim elements discussed above. Nor does Borer, which describes motion correlation in image sequences, remedy the deficiencies identified above with respect to Vaidya. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this basis of the Examiner's rejection. Should the Examiner disagree, Applicant respectfully request that the Examiner provide clarification as to how he believes the references allegedly discuss "for each pair of sending node and receiving node, marking transmissions of data packets for said pair as marked transmissions when said spectral analysis indicates peak frequencies associated with said marked transmissions are different from peak frequencies associated with others of said transmissions for said pair over a window of a predetermined number of said time periods," and, "interrupting traffic of said future data packets based on said estimating," as recited in independent claim 1.

Furthermore, Applicant submits that the rejections in the July 16, 2008 Office Action have not established why the claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made by proposing a combination of incompatible references and by not providing a discussion of the level of ordinary skill in the art.

MPEP 2143.01(V) prescribes that, "[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no

suggestion or motivation to make the proposed modification." Vaidya discusses "[a] signature based dynamic network intrusion detection system (IDS) includ[ing] attack signature profiles which are descriptive of characteristics of known network security violations," (Vaidya, abstract), while Borer discusses a motion correlation technique for "analyzing movement in image sequences" (Borer, abstract). Applicant submits that the cited references are incompatible and that a combination of the references, if such a combination were even possible, would render each reference unsuitable for its intended purpose. By way of example only, Applicant notes that Vaidya's system "monitors network traffic" to detect data packets containing information matching attack signature profiles (see Viadya, abstract). Analyzing such data packets by Borer's system, if such an analysis were even possible, would render Borer's system unsuitable for it's stated purpose of "motion correlation" for "analyzing movement in image sequences" (Borer, abstract), as the network data packets described in Vaidya have no relation to motion in image sequences. Similarly, Applicant notes that Borer's system uses spatio-temporal discrete Fourier transforms to correlate images and thereby discern motion in image sequences (see Borer, abstract). Such Fourier transforms would have no place in Vaidya's system, which detects network intrusions by comparing data packet characteristics such as header data to attack signature profiles. It is not clear how the spatio-temporal Fourier transforms of Borer could even be applied to the network data packets in Vaidya's system. Accordingly, for at least the reasons stated above, Applicant submits that a prima facie case of obviousness has not been established and respectfully requests reconsideration and withdrawal of the rejection.

Applicant also submits that the pending rejection has provided no indication of the level of ordinary skill in the art. MPEP § 2141 (II)(C) states, "Any obviousness rejection should include, either explicitly or implicitly in view of the prior art applied, an indication of

the level of ordinary skill." The pending rejection refers to, "one of ordinary skill in the art," (July 16, 2008 Office Action, p. 4, ¶ 2) but has provided no indication or discussion of which art is described or the level of ordinary skill associated therewith. The rejection's reference to "the art" is overly general and, consequently, does not provide a specific indication of the level of ordinary skill pertinent to the claimed subject matter. MPEP § 2141.03 (III) states, "The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry." Applicant submits that impermissible hindsight has been applied in asserting obviousness of the various claim elements without providing an indication of the level of ordinary skill. As such, Applicant respectfully requests that, if the Examiner maintains this rejection, the Examiner discuss the level of ordinary skill in the art at the time of the invention and clarify how the claimed subject matter would have been obvious to one possessing that level of skill.

Although of different scope than claim 1, Applicant submits that claim 8 is patentable over Vaidya in view of Borer for at least similar reasons as discussed above identifying deficiencies in both Vaidya and Borer with regard to independent claim 1. For example, claim 8 recites, *inter alia*:

A method of reducing spread of data on a network, comprising:

...  
comparing peak frequencies in successive ones of said  
periodograms for said sender node to determine if one of said  
periodograms includes a peak above a threshold at a frequency  
different from said peak frequencies in a preceding one of said  
periodograms;

...  
interrupting traffic of said future data packets corresponding to  
said frequency based on said estimating.

Applicant respectfully submits that at least these claim elements from independent claim 8 are not discussed or rendered obvious by Vaidya, which discusses detecting network intrusions

based on attack signature profiles, nor by Borer, which discusses motion correlation in image sequences, taken alone or in combination.

Although of different scope than claim 1, Applicant submits that claim 12 is patentable over Vaidya in view of Borer for at least similar reasons as discussed above identifying deficiencies in both Vaidya and Borer with regard to independent claim 1. For example, claim 12 recites, *inter alia*:

A method of reducing spread of data on a network, comprising:

...

comparing successive periodograms for said sender node to determine when at least one new peak above a threshold is present in one of said periodograms;

...

interrupting traffic of said data packets corresponding to said at least one new peak based on said estimating.

Applicant respectfully submits that at least these claim elements from independent claim 12 are not discussed or rendered obvious by Vaidya, which discusses detecting network intrusions based on attack signature profiles, nor by Borer, which discusses motion correlation in image sequences, taken alone or in combination.

Although of different scope than claim 1, Applicant submits that claim 21 is patentable over Vaidya in view of Borer for at least similar reasons as discussed above identifying deficiencies in both Vaidya and Borer with regard to independent claim 1. For example, claim 21 recites, *inter alia*:

A computer program, disposed on a computer-readable medium, for reducing spread of data on a network, said computer program including instructions for causing a processor to:

...

for each pair of sending node and receiving node, mark transmissions of data packets for said pair as marked transmissions when said spectral analysis indicates peak frequencies associated with said marked transmissions are different from peak frequencies associated with others of said transmissions for said pair over a window of a predetermined number of said time periods;

...

interrupting traffic of said future data packets based on said estimating.

Applicant respectfully submits that at least these claim elements from independent claim 21 are not discussed or rendered obvious by Vaidya, which discusses detecting network intrusions based on attack signature profiles, nor by Borer, which discusses motion correlation in image sequences, taken alone or in combination.

Furthermore, Applicant submits claims 2-7, 9-11, 13-15 and 22-26, which are directly or indirectly dependent from independent claims 1, 8, 12 and 21, are also not discussed or rendered obvious Vaidya, which discusses detecting network intrusions based on attack signature profiles, nor by Borer, which discusses motion correlation in image sequences, taken alone or in combination., for at least similar reasons to those discussed above.

Accordingly, Applicant requests withdrawal of this ground of rejections.

### **Conclusion**

In summary, Applicant submits that independent claims 1, 8, 12 and 21 are patentably distinct from the cited reference for at least the reasons discussed above. Applicant submits that claims 2-7, 9-11, 13-15 and 22-26, which are directly or indirectly dependent from independent claims 1, 8, 12 and 21, are also patentably distinct from the cited reference for at least the reasons discussed above.

As Applicant's remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicant's silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, ability to combine references, assertions as to patentability of dependent claims) is not a concession by Applicant that such assertions are accurate or such requirements have been met, and Applicant reserves the right to analyze and dispute such in the future. Furthermore, Applicant submits that the originally filed claims are patentably distinct



from the cited reference. As such, Applicant reserves the right to pursue the originally filed claims, as well as claims directly or indirectly dependent on originally filed claims, in one or more continuation application(s). Accordingly, Applicant respectfully requests reconsideration/further examination of the instant application in view of the foregoing Amendments/Remarks.

**AUTHORIZATION**

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 03-1240, Order No. 19161-620.

In the event that an additional extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 03-1240, Order No. 19161-620.

Respectfully submitted,

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